

TRANSCRIPTION - ORIGINAL FOLLOWS

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

Proposal and Recommendations
For the Review of the
Development Loan Committee

AFGHANISTAN - KAJAKAI HYDRO-ELECTRIC PLANT
Amendment III

OFFICE FOR COORDINATION

10/1/68

OFFICE OF THE

DEPARTMENT OF STATE
BUREAU FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20520

Proposal and Recommendations
For the Review of the
Development Loan Committee

APPENDIX C - KAKAI HYDRO-ELECTRIC PLANT

Attachment III

ATD-DIC/P-5-6/8

UNCLASSIFIED

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

UNCLASSIFIED

AID-DLC/P-546/8

November 27, 1974

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Afghanistan: Kajakai Hydroelectric Power Plant
Amendment III

Attached for your review are recommendations for authorization of a loan to the Government of the Republic of Afghanistan (previously authorized by the Administrator in the amount of \$12,000,000 and subsequently amended twice to add \$3,000,000 and \$7,500,000) to add an amount not to exceed \$2,900,000 to be made available to assist in financing the foreign exchange cost of goods and services required to construct certain transmission facilities required for the 33 megawatt two-unit hydroelectric generating plant now under construction at Kajakai Dam being financed by the total \$22,500,000 previously authorized.

No meeting is scheduled for this loan proposal. However, please advise us of your concurrence or objections as early as possible, but in no event later than close of business on Friday, December 6, 1974. If you are a voting member, a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development
Program Review

Attachments:

Summary and Recommendations
Project Analysis
ANNEXES A-B

UNCLASSIFIED

Kajakai Hydroelectric Plant

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Nov. 27, 1974

AFGHANISTAN

KAJAKAI HYDROELECTRIC POWER PLANT

Amendment IIISummary and Recommendations

1. Borrower: The Government of Afghanistan, with Da Afghanistan Breshna Moassessa (ABM), the Afghanistan Electric Power Authority, as the ultimate recipient.
2. Amount: \$2.0 million, increasing Loan No. 306-W-018 from \$7.5 million to \$9.5 million.
3. Purpose of Amendment: To finance the increased dollar cost of constructing 133 miles of 110 KV transmission lines and three substations.
4. Purpose of Project: To finance the foreign exchange costs of increasing and improving electric power supply to the Kandahar-Girishk area in the Helmand-Arghandab Valley, Afghanistan.
5. Project Description: The project consists of (1) generating plant; (2) transmission lines; (3) substations; and (4) a training program. Loan -018 is for the transmission line portion of the project; the other parts of the project are financed under Loan 306-H-013 as amended. The system, into which the project will be incorporated, now consists of small hydro and diesel generating stations with a total capacity of six megawatts (MW). When the project commences operation, 33 MW of additional power will be available to the system.
6. Background Activity: An A.I.D. -financed survey of the electric power requirements of the Helmand-Arghandab Valley was made by a U.S. engineering firm in 1965 and updated in 1967. It is upon the recommendations in that study that the project was undertaken.

7. Export-Import Bank Interest: The Export-Import Bank has indicated that it is not interested in considering the subject project for financing.
8. Mission Views: The Mission endorses the proposed loan.
9. Statutory Criteria: Satisfied. See Annex B.
10. Issues: None.
11. Recommendation: That an increase in Loan No. 306-W-018 be authorized to provide an additional \$2.0 million, this additional loan to be subject to the same terms and conditions as follows:
- (a) Forty (40) year maturity, including a ten (10) year grace period on principal repayments.
- (b) Two percent (2%) per annum interest during the grace period and three percent (3%) per annum interest thereafter. Interest payable, and principal repayable, in U.S. dollars only.
- (c) Borrower to assure A.I.D. that any other currencies required for the project will be made available.
- (d) Procurement of construction services to be from the United States (Code 000) only; equipment and materials may be procured from Code 941 countries.
- (e) Such other terms and conditions as A.I.D. may deem advisable.

Capital Assistance Committee

Loan Officer:	Ted G. Lee (Chairman)
Engineer:	Ray P. Stokely
Lawyer:	Jay A. Burgess
Contract Spec.:	Barry Knauf
Desk:	Gladys Frazier

I. Introduction

A. Project History

Capital Assistance Paper (CAP) No. AID-DLC/P-546, dated April 25, 1967 (the original CAP), CAP No. AID-DLC/P-546/2, dated June 16, 1972 (CAP Amendment I), and CAP No. AID-DLC/P-546/6, dated April 24, 1974 (CAP Amendment II) describe fully the development of the Kajakai Hydroelectric Project and the elements which comprise it. Briefly, the original \$12.0 million loan (No. 306-H-013) and the \$3.0 million Amendment I (Loan No. 306-H-013A) are being used to finance a 33-megawatt (MW) hydroelectric generating plant at the existing Kajakai Dam on the Helmand River in Southern Afghanistan, while the \$7.5 million Amendment II (Loan No. 306-W-018) was made for construction of the transmission system to connect the power plant to the two primary load centers from which power is distributed to users.

There are sufficient funds under Loans 306-H-013 and 013A to complete the power plant, with completion expected by midsummer 1975.

B. Purpose of this CAP Amendment III

Loan No. 306-W-018 was authorized May 10, 1974 in the amount of \$7.5 million to finance the foreign exchange costs of goods and services to construct 133 miles of transmission line with associated substations from the generating plant at Kajakai to the load centers of Kandahar and Lashkar Gah. Of that amount, \$500,000 was allocated for engineering and training services, leaving \$7,000,000 available for construction.

On September 30, 1974, bids to construct the transmission facilities were received from U.S. contractors. The dollar portion of the lower of the two bids received was \$2.8 million over the project consultant's May 1974 estimate which was the basis for the amount of the transmission system loan. The project consultant, International Engineering Company, Inc. (IECO), recommended to the Borrower's representative, the General President of Da Afghanistan Breshna Muassessa (ABM), the Afghan Electric Authority, that the bids be rejected as unreasonably high and cost savings be sought through a negotiated contract. With the concurrence of AID, the bids were rejected and discussions were initiated with the prospective contractors October 14 and concluded November 14, 1974.

These negotiations resulted in foreign exchange savings of U. S. \$1,736,848 compared to the initial low bid. To fund the dollar portion of the negotiated contract amount, \$1.14 million in excess of currently available loan funds is required; in addition, \$1.76 million of foreign exchange is estimated to be required over the life of the contract to cover escalation and contingencies.

The purpose of this CAP Amendment III is to secure the additional funds (\$1.14 million) needed to enable ABM to sign the contract and to provide a reasonable contingency (\$0.86 million) for unforeseen events; the additional requirements for escalation under the contract, estimated at \$860,000, will be for the account of the ABM. Any contingencies not covered by the AID loan will also be for the account of ABM.

An obvious question which arises is why the added cost of the transmission system is not assumed by the Government of Afghanistan in accord with the standard provision in Loan Agreement No. 306-W-018 which places the responsibility on the Borrower for providing additional funds as needed to complete the project. In addition to the GOA's foreign exchange budget constraints, we are faced with a problem of timing: If negotiated contract prices are to be held, financing arrangements must be firm and the construction contract signed not later than November 30, 1974. This date is crucial in that it represents the expiry of vendors' price obligations to the contractor. Failing execution of a contract now will assuredly lead to even higher costs in a subsequent bidding or negotiating round and further delay in completion of an operable system would be inevitable. The GOA has demonstrated time and again its inability to react effectively to unanticipated financing needs. The conclusion is therefore inescapable that if the Kajakai Hydroelectric Project is to be brought to beneficial operation without inordinate delay and further cost increases, Loan No. 306-W-018 must be supplemented by an amount which will permit signing of the transmission system construction contract by November 30, 1974. At the same time, we will have a clear understanding with the GOA that escalation during the performance of the contract will be for the account of the Borrower and suitable provisions must be made in the GOA budgeting process. That understanding will be included in detail in the amended Loan Agreement covering the additional \$2,000,000.

II. The Project

A. Project Area

A detailed description of the Project Area, its geography and historical background is contained in the original CAP and the prior two Amendments.

B. Description of the Kajakai Hydroelectric Project

- A Power Plant now under construction which consists of two 16.5 MW hydroelectric generating units and step-up substation installed at the base of the existing Kajakai Dam. The contractor, Fischbach-Oman International (FOI), is providing general construction services, related materials and equipment, and is installing the major power plant equipment purchased by ABM. Completion of the plant is expected by midsummer 1975, a date that appears realistic since the construction work is going well--the plant is 85% complete, only three months behind the original schedule.
- A Transmission System yet to be constructed which will consist of 133 miles of 110 KV transmission lines together with a substation at Kandahar and two at Lashkar Gah to step down the voltage to 13.2 KV, 44 KV and 3.3 KV, respectively. During final design and contract negotiations certain minor changes were made in the transmission system from that described in CAP Amendment II. The total transmission line mileage was reduced slightly, the 16 miles of 44 KV line were upgraded in capacity to 110 KV, and the substation at Midway was relocated at Lashkar Gah. These changes will simplify system control, communications, repairs and spare parts handling at no significant additional cost.

The transmission system will be constructed by the U. S. firm of Fischbach & Moore International (FMI), who will be responsible for purchasing, shipping and installing all materials. For carrying the power lines, the contractor will use concrete poles manufactured at a plant he will provide in Afghanistan. The pole plant will be turned over to ABM in operating condition upon completion of construction.

Further engineering and other details are covered in the original CAP and the two previous CAP Amendments.

C. Status of the Kajakai Transmission System

The consulting engineer, IECO, has completed the design of the transmission system, prepared plan and profile sheets, and commenced staking of transmission line structure locations. IECO prepared technical specifications and bidding documents for the equipment and construction services required to construct the entire transmission system and it was these documents, plus the tenders received September 30, 1974 from each respective bidder, that formed the basis for the contract negotiations initiated October 14, 1974. In accordance with the terms of the negotiated contract, the construction contractor will begin work on the project not later than January 1975; it is anticipated that the project will be completed in June 1977.

The results of the contract negotiations are discussed in subparagraph D below.

D. Transmission System Cost Estimates

The contract amount as finally negotiated with Fischbach & Moore International (FMI) is as follows:

<u>Foreign Exchange</u> \$	<u>Local Currency Equiv.</u> (Afghanis 65 = U. S. \$1)	<u>Total</u>
\$8,140,000	\$2,700,000	\$10,840,000

The contract contains an escalation provision which basically calls for the contractor to absorb the first 6% of escalation with ABM absorbing the balance. The formula is keyed to the Bureau of Labor Statistics (BLS) Metals and Metal Products index, the value of which was 187 as of October 1974. Projecting the Index through the completion of construction at two points per month increase and utilizing the escalation provision in the contract, the total contract amount, including escalation, would be as follows:

<u>Foreign Exchange</u> \$	<u>Local Currency Equiv.</u> (Afghanis 65 = U. S. \$1)	<u>Total</u>
\$9,000,000	\$3,000,000	\$12,000,000

Allowing 10% for contingencies, total contract costs on completion of the project are estimated to be as follows:

<u>Foreign Exchange</u> <u>\$</u>	<u>Local Currency Equiv.</u> <u>(Afghanis 65 = U. S. \$1)</u>	<u>Total</u>
\$9,900,000	\$3,300,000	\$13,200,000

Thus, the total estimated foreign exchange requirement of \$9,900,000 is \$900,000 over the amounts made available for the contract by Loan -018 (\$7,000,000)^{1/} and this proposed increase (\$2,000,000). That amount of \$900,000 will be provided by the GOA.

With reference to the requirement under FAA Section 110 that the recipient country provide at least 25% of the costs of the project, the effect of the loan amendment is as follows:

This Amendment--

	<u>In U. S. Dollar Equivalent</u>		
	<u>Foreign Exchange</u>	<u>Local Currency</u>	<u>Total</u>
<u>AID Contribution</u>	2,000,000	-0-	2,000,000
<u>GOA Contribution</u>	900,000	1,300,000	2,200,000
Total			4,200,000

GOA Percent of Total: 52.4%

Total Transmission Line Project--
(Loan -018 as amended)^{2/}

<u>AID Contribution</u>			
Transmission	9,000,000)	-0-	9,500,000
Engineering & Training	500,000)	-0-	
<u>GOA Contribution</u>			
Transmission	900,000	3,300,000)	4,800,000
Engineering & Training	-0-	600,000)	
Total			14,300,000

GOA Percent of Total: 33.6%

^{1/} Excluding \$500,000 for engineering and training.

^{2/} For statement concerning the GOA contributions for purposes of satisfying FAA Section 110 for original Loan -018, refer to CAP Amendment II, Statutory Checklist, Page 2.

E. Status of Facilities and Services Ancillary to the Project

1. Distribution System

Distribution systems in the load centers of Kandahar and Lashkar Gah are not a part of the AID-financed Kajakai Project. However, as an adequate distribution system is essential to the success of the project, it was discussed in detail in the original CAP and the two previous CAP Amendments. In summary, we expect that during the first three years of project operation, the distribution system will be capable of handling the requirements of the customers in the service area for which the Kajakai Project was designed. Thereafter, expansion of distribution facilities will probably be required.

2. Kajakai Dam

The Kajakai Dam on the Helmand River, and site of power plant construction described above, is a rockfill dam with ungated spillway impounding a reservoir of 1,495,000 acre feet of gross storage. The dam was completed in 1953 by Morrison-Knudsen Afghanistan, Inc., at a cost of \$12,545,000 with Export-Import Bank financing. Further details are given in the original CAP and the two previous CAP Amendments.

3. Other Generating Capacity

There are two small power plants which will be useful when the project is completed. One is the Girischk canal drop hydroelectric plant (2-1500 KW units) completed in 1960 by Morrison-Knudsen with Export-Import Bank financing. The other is the Kandahar diesel plant (2-1500 KW units) completed in 1971 by the supplier, Colt Industries, with AID financing (Loan No. 306-H-009).

Further detail of these ancillary facilities are included in the original CAP and the two previous CAP Amendments.

4. Engineering Services and Training

These are being provided by the consulting engineer, IECO, under a contract dated August 20, 1969 and amended May 18, 1971. Details are provided in the original CAP and the two previous CAP Amendments.

III. The Borrower and Implementing Agency

The Borrower will be the Government of Afghanistan (GOA) and the ultimate recipient of the loan funds will be Da Afghanistan Breshna Moassessa (ABM), an agency reporting to the Ministry of Mines and Industry. Further details are contained in the original CAP and the two previous CAP Amendments.

IV. Economic Aspects

The general economics of Afghanistan, the basis for the project, and its place in Afghanistan development were described in the original CAP and the two previous CAP Amendments. In short, in considering the economics of this project, due consideration must be given to the extensive investment already in place in the dam and powerhouse. Although internal rate of return calculations develop a relatively low return, with other components already in place the question is focused more on whether or not power will be delivered than on the economic merits of the investment.

The electric power sector is highly subsidized by the GOA. The rates for electricity are extremely low and have little relation to the cost of service. This is more fully described in the original CAP and Amendments I and II. For example, in CAP Amendment II, using a 10% interest rate, it was shown that a retail rate of 5.99c per KWH would need to be charged to break even. This would rise to about 6.5c per KWH due to the increased costs which this CAP Amendment III addresses. It is unlikely, however, that ABM can charge users more than an average 2c per KWH for some time to come. Thus, there is no doubt that electric power will continue to be government-subsidized for the foreseeable future.

V. Impact of Loan on U.S. Economy

The construction contractor is a U.S. firm. All equipment and material for the project is eligible for financing from countries listed in AID Geographic Code 941. However, it is expected that the major portion of equipment and materials will be purchased in the U.S., except for the concrete pole plant and certain steel items in short supply for which source/origin waivers have been issued in the amount of \$1,350,000 to permit purchase from AID Geographic Code 899 countries.

VI. Repayment Prospects

The increase of \$2,000,000 in the loan will have no material effect on the conclusions reached in CAP Amendment II.

VII. Environmental Impact

No change from CAP Amendment II.

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

ANNEX A
Page 1 of 2

AID-DLC/P-546/8/A/Draft
November 27, 1974

A.I.D. Loan No.
(Amendment No. 3 to A.I.D.
Loan No. 306-H-013)

CAPITAL ASSISTANCE LOAN AUTHORIZATION AMENDMENT
Provided from: FAA Sec. 106 ("Selected Development Problems")
(Afghanistan: Kajakai Hydroelectric Power Plant)

Pursuant to the authority vested in the Assistant Administrator, Bureau for Near East and South Asia, of the Agency for International Development ("A.I.D.") by the Foreign Assistance Act of 1961, as amended, and delegations of authority issued thereunder, I hereby authorize, pursuant to Part I, Chapter I, Section 106 - Selected Development Problems and Part I, Chapter II, Title I, the Development Loan Fund, a third amendment to A.I.D. Loan No. 306-H-013 to the Republic of Afghanistan ("Borrower") (previously authorized by the Administrator in the amount of \$12,000,000 and subsequently amended twice to add \$3,000,000 and \$7,500,000) to add an amount not to exceed \$2,000,000 to be made available to the Republic of Afghanistan to assist in financing the foreign exchange cost of goods and services required to construct certain transmission facilities ("Project") required for the 33 megawatt two-unit hydroelectric generating plant now under construction at Kajakai Dam being financed by the total \$22,500,000 previously authorized.

This increase in the Loan is subject to the following conditions:

1. Interest Rate and Terms of Payment

This increase in the Loan shall be repaid by the Republic of Afghanistan within forty (40) years after the date of the first disbursement under the loan increase authorized by this Amendment, including a grace period of not to exceed ten (10) years from the date of such first disbursement. The interest on the outstanding balance of the disbursements under such increase and on any due and unpaid interest shall be at the rate of two percent (2%) per annum during the ten (10) years grace period and at the rate of three percent (3%) per annum thereafter.

2. Currency of Repayment

Repayment of the funds due under the increased loan and payment of interest thereon shall be in United States Dollars.